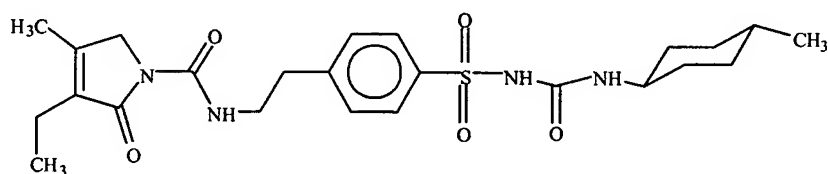


# IN THE CLAIMS

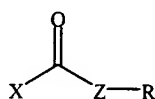
Please cancel claims 1-31. Please add the following new claims :

32) (new) A process for the preparation of *trans*-3-Ethyl-2,5-dihydro-4-methyl-N-[2-[4-  
5 [4-(4-methylcyclohexyl)amino]carbonyl]amino]sulfonyl]phenyl]ethyl]- 2-oxo-1*H*-pyrrole-1-  
carboxamide, a compound of the formula 1,



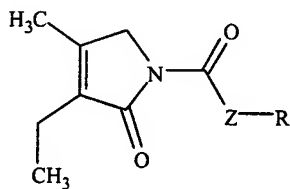
**Formula 1**  
comprising,

10 a) reacting 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2,



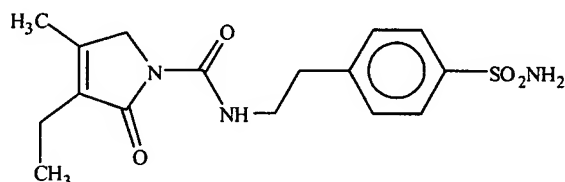
**Formula 2**

to obtain a compound of formula 3,



**Formula 3**

- b) reacting a compound of formula 3 with 4-(2-Aminoethyl)benzene sulfonamide to obtain 4-[2-(3-Ethyl-4-methyl-2-carbonyl pyrrolidine amido)ethyl]benzene sulfonamide, a compound of formula 4,



**Formula 4**

- c) and further reacting the compound of formula 4 with *trans*-4-methylcyclohexyl isocyanate to obtain the compound of formula 1,

wherein,

X is halogen, nitroaryl or haloaryl,

Z is O, S or NY, wherein Y is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl, aryl or aralkyl, and

R is aryl or heteroaryl, where aryl or heteroaryl radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

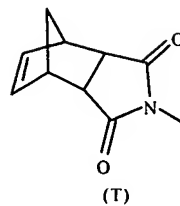
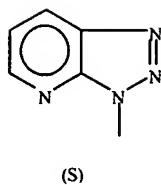
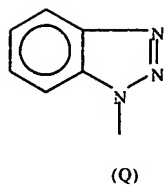
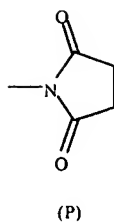
R<sup>1</sup> is H, C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-alkoxy or C<sub>2</sub>-C<sub>5</sub>-alkenoxy,

R<sup>2</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

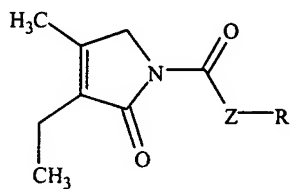
R<sup>3</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

R<sup>4</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl, or

the moiety represented below by P, Q, S or T.

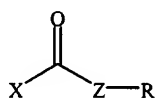


33) (new) A process for the preparation of a compound of formula 3,



**Formula 3**

comprising reacting 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2,



**Formula 2**

wherein,

X is halogen, nitroaryl or haloaryl,

Z is O, S or NY, wherein Y is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl, aryl or aralkyl, and

R is aryl or heteroaryl, where aryl or heteroaryl radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

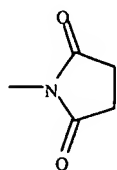
R<sup>1</sup> is H, C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-alkoxy or C<sub>2</sub>-C<sub>5</sub>-alkenoxy,

5 R<sup>2</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

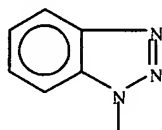
R<sup>3</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

R<sup>4</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl, or

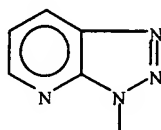
the moiety represented below by P, Q, S or T.



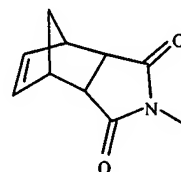
(P)



(Q)

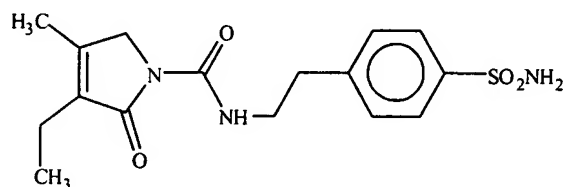


(S)



(T)

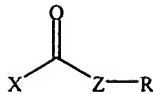
10 34) (new) A process for the preparation of a compound of formula 4,



**Formula 4**

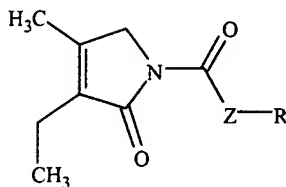
comprising,

a) reacting 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2,



**Formula 2**

to obtain a compound of formula 3,



**Formula 3**

b) reacting a compound of formula 3 with 4-(2-Aminoethyl)benzene sulfonamide to obtain 4-[2-(3-Ethyl-4-methyl-2-carbonyl pyrrolidine amido)ethyl]benzene sulfonamide, a compound of formula 4,

wherein,

X is halogen, nitroaryl or haloaryl,

Z is O, S or NY, wherein Y is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl, aryl or aralkyl and

R is aryl or heteroaryl, where aryl or heteroaryl radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

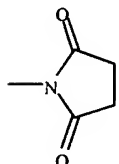
R<sup>1</sup> is H, C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-alkoxy or C<sub>2</sub>-C<sub>5</sub>-alkenoxy,

R<sup>2</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

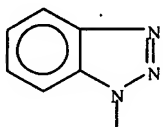
$R^3$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl,

$R^4$  is  $C_1$ - $C_5$ -alkyl,  $C_2$ - $C_5$ -alkenyl,  $C_2$ - $C_5$ -alkynyl,  $C_1$ - $C_5$ -haloalkyl or  $C_2$ - $C_5$ -haloalkenyl, or

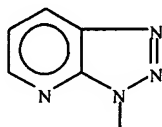
the moiety represented below by P, Q, S or T.



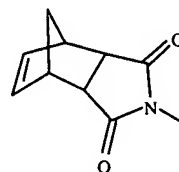
(P)



(Q)

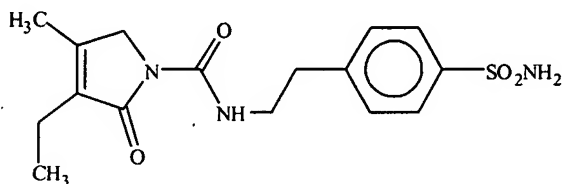


(S)



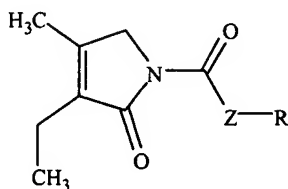
(T)

- 5 35) (new) A process for the preparation of a compound of formula 4,



**Formula 4**

comprising reacting a compound of formula 3



**Formula 3**

with 4-(2-Aminoethyl)benzene sulfonamide to obtain 4-[2-(3-Ethyl-4-methyl-2-carbonylpyrrolidine amido)ethyl]benzene sulfonamide, a compound of formula 4,

wherein,

Z is O, S or NY, wherein Y is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl, aryl or aralkyl and

R is aryl or heteroaryl, where aryl or hetroaryl radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

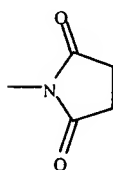
5 R<sup>1</sup> is H, C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-alkoxy or C<sub>2</sub>-C<sub>5</sub>-alkenoxy,

R<sup>2</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

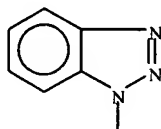
R<sup>3</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

R<sup>4</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl, or

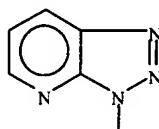
the moiety represented below by P, Q, S or T.



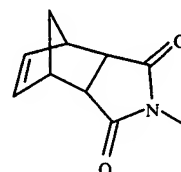
(P)



(Q)



(S)



(T)

10

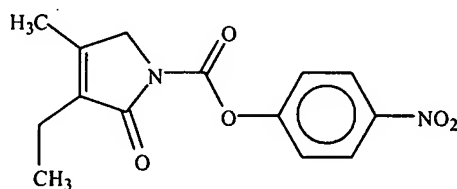
36) (new) The process as claimed in claim 35 wherein the compound of formula 4 is further reacted with *trans*-4-methylcyclohexyl isocyanate to obtain the compound of formula 1.

37) (new) The process as claimed in claim 32 wherein the reaction of 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2, is carried out in presence of an organic base and optionally an acid scavenger compound.

15

38) (new) The process as claimed in claim 32 comprising,

- a) reacting 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2,  
wherein Z is O and R is 4-nitrophenyl, to obtain a compound of formula 3a,



**Formula 3a**

- 5 b) reacting the compound of formula 3a with 4-(2-Aminoethyl)benzene sulfonamide to  
obtain 4-[2-(3-Ethyl-4-methyl-2-carbonyl pyrrolidine amido)ethyl]benzene  
sulfonamide, a compound of formula 4,
- c) and further reacting the compound of formula 4 with *trans*-4-methylcyclohexyl  
isocyanate to obtain the compound of formula 1.
- 10 39) (new) The process as claimed in claim 37 wherein the organic base is selected from the  
group consisting of 4-dimethylaminopyridine; 4-pyrrolidinopyridine; diisopropylethylamine,  
tetramethylguanidine; 1,8-diazabicyclo[5.4.0]undec-7-ene; 1,5-diazabicyclo [4.3.0] non-5-ene;  
2,6-lutidine and picolines.
- 40) (new) The process as claimed in claim 37 wherein the acid scavenger compound is  
15 selected from the group consisting of trialkylamines, pyridine, sodium carbonate and potassium  
carbonate.
- 41) (new) The process as claimed in claim 37 wherein the organic base is 4-  
dimethylaminopyridine and the acid scavenger compound is triethylamine.



42) (new) The process as claimed in claim 32 wherein the reaction of 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2 is carried out in presence of a solvent selected from the group consisting of aliphatic or aromatic hydrocarbons, ethers, nitriles and amides.

43) (new) The process as claimed in claim 32 wherein the reaction of 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2 is carried out in a chlorinated hydrocarbon solvent.

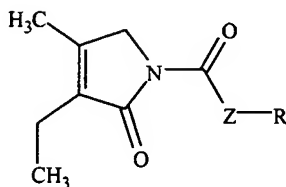
44) (new) The process as claimed in claim 32 wherein the reaction of 3-Ethyl-4-methyl-3-pyrrolidin-2-one with a compound of formula 2 is carried out at a temperature between the range of about 0°C to about 35°C for about 8 to about 15 hours.

45) (new) The process as claimed in claim 38 wherein a compound of formula 3a is obtained in a purity of greater than 99%.

46) (new) The process as claimed in claim 38 wherein a compound of formula 4 is obtained in a purity of greater than 99%.

47) (new) The process as claimed in claim 38 wherein a compound of formula 1 is obtained in a purity of greater than 99%.

48) (new) The intermediate compound of formula 3,



**Formula 3**

wherein,

Z is O, S or NY, wherein Y is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl, aryl or aralkyl, and

R is aryl or heteroaryl, where aryl or heteroaryl radical is unsubstituted or substituted by one or more radicals from the group consisting of nitro, halogen, cyano, azido, haloalkyl, CO-R<sup>1</sup>, SR<sup>2</sup>, SO-R<sup>3</sup> and SO<sub>2</sub>-R<sup>4</sup>,

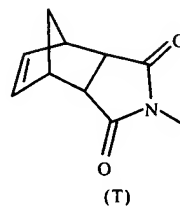
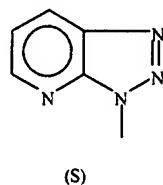
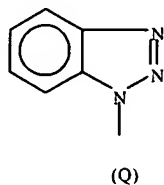
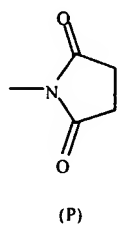
R<sup>1</sup> is H, C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-alkoxy or C<sub>2</sub>-C<sub>5</sub>-alkenoxy,

R<sup>2</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

R<sup>3</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl,

R<sup>4</sup> is C<sub>1</sub>-C<sub>5</sub>-alkyl, C<sub>2</sub>-C<sub>5</sub>-alkenyl, C<sub>2</sub>-C<sub>5</sub>-alkynyl, C<sub>1</sub>-C<sub>5</sub>-haloalkyl or C<sub>2</sub>-C<sub>5</sub>-haloalkenyl, or

the moiety represented below by P, Q, S or T.

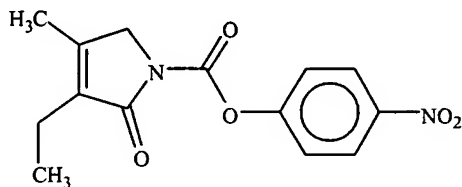


49) (new) The intermediate compound of formula 3, as claimed in claim 48 wherein Z is O and R is aryl or the moiety represented by (P), (Q), (S) or (T), characterised in that aryl is phenyl substituted with one or more radicals selected from nitro, halo, cyano, 4-trifluoroalkyl, 2,4-bis(trifluoroalkyl) or 2,6-bis(trifluoroalkyl).

50) (new) The intermediate compound of formula 3, as claimed in claim 48, wherein Z is O and R is selected from phenyl substituted with 4-nitro, 2,4-dinitro, 2,6-dinitro, 4-halo,

2,4-dihalo, 2,6-dihalo, 4-trifluoromethyl, 2,4-bis(trifluoromethyl) or 2,6-bis(trifluoromethyl).

- 51) (new) The intermediate compound of formula 3a:



5

**Formula 3a**

- 52) (new) The compound as claimed in claim 51 having a purity greater than 99%.

10